

Amendments to the Claims

Please amend the claims as follows:

1. (Currently Amended) A method of representing type information via objects of classes in a class hierarchy, wherein the class hierarchy comprises at least one class and a plurality of sub-classes for representing different type classifications, the method comprising:
instantiating one or more objects of one or more of the sub-classes of the hierarchy,
wherein the one or more sub-classes represent classifications of types; and
storing information in the one or more objects;
wherein the one or more objects represent type information of a variable in software during compilation of the software.
2. (Canceled)
3. (Original) The method of claim 1 wherein at least one of the objects comprises information for a size of a type represented by the object.
4. (Original) The method of claim 1 wherein at least one of the one or more sub-classes inherits from an abstract type that wraps an externally defined type, the abstract type providing a mapping from a typed intermediate language to original source code.
5. (Original) The method of claim 1 wherein at least one of the one or more sub-classes represents container types.
6. (Original) The method of claim 1 wherein at least one of the one or more sub-classes represents pointer types.
7. (Original) The method of claim 1 wherein at least one of the one or more sub-classes represents function types.

8. (Original) The method of claim 1 wherein at least one of the one or more sub-classes represents unmanaged array types.

9. (Original) The method of claim 1 wherein at least one of the one or more sub-classes represents class types.

10. (Original) The method of claim 1 wherein at least one of the one or more sub-classes represents managed array types.

11. (Original) The method of claim 1 wherein at least one of the one or more sub-classes represents struct types.

12. (Original) The method of claim 1 wherein at least one of the one or more sub-classes represents interface types.

13. (Original) The method of claim 1 wherein at least one of the one or more sub-classes represents enumerated types.

14. (Original) The method of claim 1 wherein at least one of the one or more sub-classes represents primitive types.

15. (Original) The method of claim 14 wherein at least one of the sub-classes representing primitive types represents the following types: int, float, and void.

16. (Original) The method of claim 14 wherein at least one of the sub-classes representing primitive types can represent an unknown type.

17. (Original) The method of claim 14 wherein at least one of the sub-classes representing primitive types is extensible to represent one or more additional primitive types.

18. (Original) The method of claim 1 wherein at least one of the one or more sub-classes is defined from the group consisting of: 'ContainerType', 'PtrType', 'FuncType', 'ClassType', 'StructType', 'InterfaceType', and 'EnumType'.

19. (Original) The method of claim 1 wherein at least one of the one or more sub-classes is defined as 'PrimType'.

20. (Currently Amended) A computer-readable medium having a software program thereon, the program comprising computer executable instructions for implementing a method for representing type classifications, the method comprising:

~~program code~~ for defining a programming class as 'PrimType';
~~program code~~ for associating a size with instances of the 'PrimType' class; and
~~program code~~ for associating a kind of type with instances of the 'PrimType' class.

21. (Original) The computer-readable medium of claim 20 wherein the size represents a size of a machine representation of a value.

22. (Currently Amended) The computer-readable medium of claim 20 wherein ~~the program code~~ for associating a size with instances of the 'PrimType' class ~~defines~~ comprises defining the size as 'BitSize'.

23. (Original) The computer-readable medium of claim 20 wherein the kind of type represents a type classification.

24. (Currently Amended) The computer-readable medium of claim 20 wherein ~~the program code~~ for associating a kind of primitive type with instances of the 'PrimType' class ~~defines~~ comprises defining the kind of type as 'PrimTypekind'.

25. (Currently Amended) The computer-readable medium of claim 20 wherein the method further comprising comprises ~~program code~~ for associating a type of size with instances of the 'PrimType' class.

26. (Currently Amended) The computer-readable medium of claim 25 wherein ~~the program code for associating a type of size with instances of the 'PrimType' class defines~~ comprises defining the type of size as 'SizeKind'.

27. (Original) The computer-readable medium of claim 25 wherein the type of size can comprise actual, symbolic, or unknown types of size.

28. (Original) The computer-readable medium of claim 20 wherein the class 'PrimType' represents a plurality of types, the plurality of types comprising int, float, unknown, void, condition code, and unsigned int types.

29. (Original) A computer-readable medium having computer-executable instructions for implementing a method for representing type classifications, the method comprising:

describing a type classification for representing container types of a plurality of programming languages, wherein the type classification is described as 'ContainerType'.

30. (Original) The computer-readable medium of claim 29, wherein the method further comprises:

describing a type classification for representing pointer types of a plurality of programming languages, wherein the type classification is described as 'PtrType'.

31. (Original) A method of programmatically defining a type representation, the method comprising:

defining a base class;

defining a plurality of classes hierarchically below the base class, wherein the classes represent at least pointer types, container types and function types of a plurality of programming languages.

32. (Original) The method of claim 31 further comprising defining a plurality of classes hierarchically below the class representing container types, wherein the plurality of classes represent at least class types, struct types, interface types, and enumerated types of a plurality of programming languages.

33. (Original) The method of claim 32 further comprising defining a class hierarchically below the class representing class types, wherein the class represents unmanaged array types of a plurality of programming languages.

34. (Original) The method of claim 31 further comprising defining a class hierarchically one of the plurality of classes, wherein the class represents primitive types of a plurality of programming languages.

35. (Original) The method of claim 34 wherein the class further represents an unknown type.

36. (Currently Amended) A computer-readable medium having a software program thereon, the program comprising computer executable instructions for implementing a method for representing type classifications, the method comprising:

~~program code for~~ defining a programming class as 'ContainerType', wherein an object of class 'ContainerType' is a type representation in an intermediate language for container types in a section of code written in one of a plurality of programming languages;

~~program code for~~ defining a programming class as 'PtrType', wherein an object of class 'PtrType' is a type representation in an intermediate language for pointer types in a section of code written in one of a plurality of programming languages;

~~program code for~~ defining a programming class as 'FuncType', wherein an object of class 'FuncType' is a type representation in an intermediate language for function types in a section of code written in one of a plurality of programming languages;

~~program code for~~ defining a programming class as 'ClassType', wherein an object of class 'ClassType' is a type representation in an intermediate language for class types in a section of code written in one of a plurality of programming languages;

~~program code for~~ defining a programming class as 'StructType', wherein an object of class 'StructType' is a type representation in an intermediate language for struct types in a section of code written in one of a plurality of programming languages;

~~program code for~~ defining a programming class as 'InterfaceType', wherein an object of class 'InterfaceType' is a type representation in an intermediate language for interface types in a section of code written in one of a plurality of programming languages; and

~~program code for~~ defining a programming class as 'EnumType', wherein an object of class 'EnumType' is a type representation in an intermediate language for enumerated types in a section of code written in one of a plurality of programming languages.

37. (Currently Amended) The computer-readable medium of claim 36 wherein the method further ~~comprising~~ comprises program code for defining a programming class as 'PrimType', wherein an object of class 'PrimType' is a type representation in an intermediate language for primitive types in a section of code written in one of a plurality of programming languages.

38. (Currently Amended) The computer-readable medium of claim 36 wherein the method further ~~comprising~~ comprises program code for associating a size with an object of any class.

39. (Currently Amended) The computer-readable medium of claim 36 wherein the method further ~~comprising~~ comprises program code for associating a kind of type with an object of any class.